

**ABSTRACT**

An inorganic compound for removing polymers after a semiconductor etching process and related methods and apparatus are disclosed. An example compound includes DIW,  $\text{H}_2\text{SO}_4$ ,  $\text{H}_2\text{O}_2$  and HF. An example method for removing polymers generated during etching processes removes the polymers by using the example compound forms a protective oxide film on at least one of a metal line, a via hole and a pad open area by using  $\text{H}_2\text{O}_2$ , and protects the at least one the metal line, the via hole and the pad open area by the protective oxide film while removing the polymers by using HF. An apparatus for manufacturing the example compound includes a plurality of tanks in which DIW,  $\text{H}_2\text{SO}_4$ ,  $\text{H}_2\text{O}_2$  and HF are stored, respectively, a main tank for mixing DIW,  $\text{H}_2\text{SO}_4$ ,  $\text{H}_2\text{O}_2$  and HF supplied from the plurality of tanks through supplying tubes connected between the main tank and the plurality of tanks, flow control devices for controlling flow rates of DIW,  $\text{H}_2\text{SO}_4$ ,  $\text{H}_2\text{O}_2$  and HF, through the supplying tubes, and a pump for circulating a mixture of DIW,  $\text{H}_2\text{SO}_4$ ,  $\text{H}_2\text{O}_2$  and HF stored in the main tank.